

## **ABSTRACT**

### **ULTRASONIC PROBE DEVICE WITH RAPID ATTACHMENT AND DETACHMENT MEANS**

5       An ultrasonic tissue ablation device comprising a transversely vibrating elongated  
probe, and a coupling assembly for probe attachment and detachment that enables the  
probe assembly and separation from the device body that includes the ultrasound energy  
source and a sound conductor, and a method of use for removal of vascular occlusions in  
blood vessels. The coupling assembly enables incorporation of elongated probes with  
10   small cross sectional lumens such as a catheter guidewires. The probe detachability  
allows insertion manipulation and withdrawal independently of the device body. The  
probe can be used with acoustic and/or aspirations sheaths to enhance destruction and  
removal of an occlusion. The horn assembly of the device that contains a sound  
conducting horn functions as an energy regulator and reservoir for the probe, and  
15   precludes loss of probe cavitation energy by its bending or damping within the blood  
vessel.